



Faculty of Applied and Creative Arts

**ENHANCING THE SARAWAK TEXTILE MUSEUM  
EXPERIENCE WITH TECHNOLOGY**

**KOID QIAN HUI**

**Bachelor of Applied Arts with Honours  
(Design Technology)  
2020**

# **ENHANCING THE SARAWAK TEXTILE MUSEUM EXPERIENCE WITH TECHNOLOGY**

**KOID QIAN HUI**

This project is submitted in partial fulfilment of the requirements  
for the Degree of Bachelor of Applied Arts with Honours  
(Design Technology)

Faculty of Applied and Creative Arts  
UNIVERSITI MALAYSIA SARAWAK  
2020

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Received for examination by:

---

(DR. SITI SHUKHAILA BT SHAHARUDDIN)

Date:

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## **ABSTRACT**

As museum has shifted to audience- oriented, visitors' experience has become the main concern of the museum. Increasing of visitors' expectation causes the museum to face difficulty in sync with their curiosity and interests. Meanwhile, in this digital evolution era, technology offer a new opportunity for the museum to improve engagement and interactivity in order to meet the expectation of the visitors. The study focus on the Sarawak Textile Museum visitors' experience. By combining the mobile technology and interactive display technology as a way to enrich the visitors' experience yet increase Sarawak Textile Museum interactivity. Qualitative and qualitative research are carried out to collect the data. The findings is then analysed to understand visitors' expectation and finally suitable technologies are proposed to develop in Sarawak Textile Museum.

Keyword: Museum Experience, Visitors' Experience, Technology, Engagement

## **ABSTRAK**

*Pengalaman dan keselesaan pengunjung telah menjadi perhatian utama muzium. Peningkatan ekspektasi pengunjung terhadap muzium menyebabkan muzium telah menghadapi cabaran dalam memenuhi rasa ingin tahu pengunjung. Dalam era digital ini, teknologi telah menawarkan peluang bagi muzium untuk meningkatkan interaktiviti dan penglibatan pengunjung dalam muzium. Projek penyelidikan ini bertujuan untuk mengkaji peningkatan keselesaan dan pengalaman pengunjung terhadap Muzium Tekstil Sarawak dengan penggunaan teknologi. Penyelidikan telah dijalankan di Muzium Tekstil Sarawak bagi mengumpul data. Hasil kajian kemudian dianalisis bagi mengukur motivasi serta ekspektasi pengunjung muzium dan seterusnya meningkatkan pengalaman muzium dengan teknologi yang sesuai.*

*Kata kunci: Pengalaman Muzium, Pengalaman Pelawat, Teknologi, Penglibatan*



# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

A museum is an institution that plays an important role in collecting and preserving artefacts and ancient objects about historical, cultural, scientific, etc. (Harada, Hideyoshi, & Jean, 2018). It exhibits the original ancient object for the public including international visitors and domestic visitors. Besides, it creates an education environment by transmitting the knowledge and information to the public through the exhibited collection as well as enhance their aesthetic experience. A museum that categorized under cultural heritage tourism is the major contributor to the tourism industry. It always becomes the main attraction for the tourist especially those who love local history, culture, arts, and heritage. Malaysia has various ethnics and races with unique culture, history, traditional clothes, arts, and handicrafts brings more opportunity to the visitation of the museum.

In recent years, most of the museums have transformed from a collection-centred museum to a visitors-centred museum where it focuses on the visitors' experience rather than a physical visit (Vermeeren, 2018). The development of modern technology is important as it can enrich the visitors' experience by enabling the interaction between the exhibited object and visitors. By doing this, visitors will appreciate the heritage and interestingly receive the information. Many museums in other countries have started to develop the technology into the museum. For example, Taipei National Palace Museum applied motion-sensing equipment in the exhibited painting (Danyun & Jiun, 2016). Apart from that, Rijksmuseum in Amsterdam

also adapts an augmented reality mobile application call Paint Job into the museum to create visitors' experience (Vermeeren, 2018).

Thus, this research aims to enhance the Sarawak Textile Museum experience by focusing on the use of technology as a medium such as mobile application and display technology to increase the interactivity and visitation of the museum.

## **1.2 Background of Study**

In August of 2005, Sarawak Textile Museum was opened as a physical museum which displays the authentic local history and culture artwork including textile, costume, and accessories of all the ethnic community in Sarawak such as Iban Pua Kumbu, Sarawak Malay Kain Songket Sarawak beads and more (Official Website of Sarawak Museum Department, n.d.). The traditional design and weaving techniques have also displayed in the museum. Series of traditional clothes and costumes with the accessories for the various ceremony have exhibited to the visitors. Apart from that, the Sarawak Textile Museum also exhibits historical artefacts.



Figure 1.0: The building of Sarawak Textile Museum



Figure 1.1: The Display of Sarawak Traditional Costume and Historical Artefacts



Figure 1.2: The Display of Textile Manufacturing Proses

Originally, the building was a medical centre in 1907 and later transform into the Education Department of Sarawak State Government. The building has three-story and the architecture was a combination of the English Renaissance and colonial style. The ground floor was the reception area while the upper two floors were the exhibition area. The museum was located at The Pavilion Building in Kuching City which was beside the Plaza Merdeka Kuching. There were a few activities and events held by the museum throughout the years, for example, Beads for Beauty exhibition in 2014 and Treasure from the Nusantara exhibition in 2018.

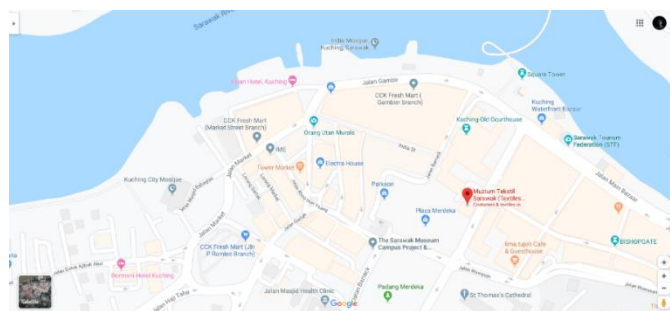


Figure 1.3: Google Map of Sarawak Textile Museum

In this research, the researcher will look into the response from the visitors in the Sarawak Textile Museum where the interaction between the visitors and the exhibited object and the factors of the visitors' experience in the museum will be investigated. Besides, the researcher will study the technology and find out the suitable technology that could be developed in the museum to enhance the Sarawak Textile Museum experience.

### **1.3 Problem Statement**

In most of the museums including the Sarawak Textile Museum, visitors' experiences are limited to visual where there is no interaction between the exhibited objects and the visitors. This situation happened as the exhibited objects in the museum have historical value and some are fragile. According to Harada, Hideyoshi, Gressier-Soudan, and Jean (2018), they are displayed in a protected environment thus create a barrier between the visitors and the collection. Visitors can only experience the museum through their observation hence the museum might have a lesser opportunity for the visitors to fully interactivity (Danyun & Jiun, 2016).

Another problem in Sarawak Textile Museum is the lack of the development of interactive technology in the museum. In the digital age, many museums have used technology to attract visitors and improve museum experience. According to Pop and Borza (2017), in the next few years, the public might prefer to experience a digital or virtual museum rather than a physical museum. This is because by using technology such as augmented reality, virtual reality, audio guide, and more, visitors can fully experience and interact with the exhibited object. Hence, it will increase their appreciation for the museum. However, Sarawak Textile Museum as a physical museum exhibits fixed and static object might restrict the visitors' experience in the museum.

## **1.4 Research Objective**

1. To identify the current technology used in museums.

In this research, the current technology used in digital museums needs to be identified. Since there is no digital museum in Sarawak, literature research on the technology will be conducted to collect information on the trend and technology used in the museum. In today's digital era, technology has increased people's expectations toward museum experience. Interactive technology, for example, mobile technology, augmented reality technology, virtual reality, and so on not only can be used to aid learning but also navigation, entertainment, and exploration in the museum.

2. To analyse the experience of visitors in the Sarawak Textile Museum.

Analysis of the visitors' motivation visiting the museum and their expectations toward the museum is important as the guideline to understand visitors' overall experience in the museum. Several methods will be used to analyse the experience of visitors in the Sarawak Textile Museum including observation, questionnaire, and interview.

3. To develop a display technology and mobile application prototype to enhance Sarawak Textile Museum experience.

Experimental and exploration will be done by developing a display technology and mobile app to enhance the museum experience. Due to the limitation of an expert in programming and coding, the display technology and mobile application will be designed up to the prototype level.

## **1.5 Research Question**

1. What is the current technology that applied in the museum?

Technology applied in the museum from other countries will be identified. Besides that, the function, features, and interface of the technology and mobile application for the museum will be studied in this research. The possible technology that can be applied include mobile application, QR code, chatbot, augmented reality technology, and digital display board.

2. How was the experience of visitors in the Sarawak Textile Museum?

Museum Experience Model will be studied to understand the museum experience while the experience of visitors toward the education and information gain in the museum will be analysed. The visitors' appreciation towards the culture of Sarawak will also be studied throughout the research.

3. What is an effective way to enhance the Sarawak Textile Museum experience?

The experience attribute will be studied in ordered to understand the effective ways to enhance the museum experience. Besides, response and feedback from the visitors will also be taken into consideration in enhancing the museum experience. The design, interface, and function of the display technology and mobile application of the museum will be created according to the preferences and user experiences of the visitors.

## **1.6 Scope of Study**

This research considers the visitors of the Sarawak Textile Museum and their museum experiences. In order to understand the visitors' experience in Sarawak Textile Museum, Museum Experience Model is used as a guide to study the museum experience. Moreover, the observation and survey will be conducted in the museum to further study their experience in Sarawak Textile Museum.

Besides, this research will also focus on the use of current technology in enhancing the Sarawak Textile Museum experience. Technology, for example, virtual reality augmented reality, motion sensor technology, audio guide technology and more will be studied in this research. While mobile technology and display that is suitable to enhance the visitors' experience will be developed in the museum. The visitors of the Sarawak Textile Museum will be the respondent throughout the research.

## **1.7 Limitation of Study**

One of the limitations of this research is geographical. As this research is specific on Sarawak Textile Museum, the observation and survey will only be carried out in the Sarawak Textile Museum while the data of the survey can only get from the visitors of the museum.

The second limitation is the limitation of the software. The knowledge in programming and coding is needed in creating a mobile application and display technology. Various expertise in various fields is needed to create a functional mobile application. Due to this limitation, a prototype display technology and mobile application will be produced at the end of this research.

## **1.8 Significance of Study**

This research concern about the visitors' experience in Sarawak Textile Museum. The interaction between the collection in the museum and the visitors can be enriched through the use of technology. Furthermore, technology in the museum can improve the attractiveness of the museum making the museum become a tourist itinerary. The use of interactive technology also increases visitors' education and their appreciation for the museum. Therefore, development of a mobile application in the museum act as a medium to integrate the Sarawak Textile Museum and improve the connection of visitors and exhibited object.

## **1.9 Conclusion**

In conclusion, the research will focus on the use of technology in enhancing the Sarawak Textile Museum experience. Sarawak Textile Museum as a physical museum display local heritage, culture, and arts to the public. However, there is the limitation of visitors' experience in the museum where the interaction of visitors and exhibited object in the museum is restricted. Besides, Sarawak Textile Museum remains a physical museum and lacks the development of interactive technology.

Thus, the objective of this research is to identify the current technology used in the museum, analysed the experience of the visitors in the Sarawak Textile Museum, and develop display technology together with a mobile application prototype to enhance the Sarawak Textile Museum experience. The museum needs to be integrated to increase the interaction between historical collection and visitors thus create positive visitors' experiences in the Sarawak Textile Museum. By doing this, visitors will have a better understanding of the culture and value of the